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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,710	12/13/2001	Aarne Heino	111389	1310
25944	7590	03/25/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			MCCLENDON, SANZA L	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,710

Applicant(s)

HEINO, AARNE

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 2 and 9-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Response to Amendment*

1. In response to the Amendment received on August 8, 2003, the examiner has carefully considered the amendments. The claim objections for claims 8 and 18 have been overcome by applicant's amendment and are hereby withdrawn.

### *Response to Arguments*

2. Applicant's arguments filed August 8, 2003 have been fully considered but they are not persuasive. However the rejection of claims 1-2, 4-6, and 10-11 under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103(a) as being unpatentable over Seaborne et al (GB 2 283 489) has been withdrawn, while the rejections of claims 1-18 as being anticipated under 35 USC 102(b) and 35 USC 102(e) by Sjoberg et al (WO 97/10936 and US 6,106,761) still stand. Applicant has stated in the arguments and the interview of August 4, 2003 that Sjoberg et al (WO 97/10936 and US 6,106,761) differs from the instantly claimed invention because Sjoberg et al teaches a uniform heating of the polymer material and does not expressly suggest or teach that the radiation is absorbed by the additive, while the instantly claimed invention comprises a method that allows the radiation to optimally penetrate the polymer or elastomer material but absorbs in the additive to produce the desired chemical reaction, wherein the word "optimally" is interpreted by the examiner as meaning totally, i.e., total penetration into the polymer. However the instant claim 1 as written does not expressly exclude heating the polymer material or distinguish the method from that of the prior art made of record. The prior art made of record teaches choosing radiation having a wavelength that is not substantially equal to the absorption peaks of the polymer material, wherein it is noted that there is no mention employing radiation in a wavelength that is absorbed by the additive (i.e. the peroxide) but there still is a crosslinking reaction taking place, therefore the examiner deems the radiation (heat) applied would seem to be the cause the decomposition of the peroxide additive.

### *Claim Rejections - 35 USC § 102*

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 3-8, 12, and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Sjoberg et al (US 6,106,761).

Sjoberg et al teaches methods of heating and/or crosslinking of polymers. Said method comprises irradiating said polymer material with infrared radiation, which is not substantially equal to the absorption peaks of the polymer material. Said polymer materials according to the invention can be polyethylene and an organic peroxide or azo compound as a crosslinker. Sjoberg et al teaches irradiating of the polymer with IR radiation having wavelengths that differ from the wavelengths for which the polymer has absorption peaks, which will provide uniform heating of the polymer material across the entire thickness and said heating is sufficient enough to crosslink (i.e. activate said peroxide to initiate said crosslinking reaction) the polymer

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material without the deleterious effects of the polymer material. The elimination of said absorption peaks can be achieved by placing a filter between the IR source and the polymer material. The examiner is contending that said peroxide and azo compounds anticipate applicant' s claims 2-3 and 9-10 because peroxide is a well-known chemical foaming agent.

Sjoberg et al teaches said method is useful in lining of pipes, therefore the examiner deems that said method could inherently be used in the manufacture of coating/insulating cables in the absence of evidence to the contrary.

5. Claims 1, 3-8, 12, and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sjoberg et al (WO 97/10936).

Sjoberg et al teaches methods of heating and/or crosslinking of polymers. Said method comprises irradiating said polymer material with infrared radiation, which is not substantially equal to the absorption peaks of the polymer material. Said polymer materials according to the invention can be polyethylene and an organic peroxide or azo compound as a crosslinker. Sjoberg et al teaches irradiating of the polymer with IR radiation having wavelengths that differ from the wavelengths for which the polymer has absorption peaks, which will provide uniform heating of the polymer material across the entire thickness and said heating is sufficient enough to crosslink (i.e. activate said peroxide to initiate said crosslinking reaction) the polymer material without the deleterious effects of the polymer material. The elimination of said absorption peaks can be achieved by placing a filter between the IR source and the polymer material. The examiner is contending that said peroxide and azo compounds anticipate applicant' s claims 2-3 and 9-10 because peroxide is a well-known chemical foaming agent. Said IR radiation can be used from sources such as those listed in column 9, lines 34-41.

Sjoberg et al teaches said method is useful in lining of pipes, therefore the examiner deems that said method could inherently be used in the manufacture of coating/insulating cables in the absence of evidence to the contrary.

*Allowable Subject Matter*

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6. Claims 2 and 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance: the prior art made of record fails to teach a method for processing polymer or elastomeric materials comprising the method steps found in claim 1, wherein the method comprises the wavelength of the infrared radiation is chosen on the basis characteristics oscillation frequencies of the polymer or elastomer material and the additive, such that the wavelength corresponds to the characteristic oscillation frequencies of the additive and not the characteristic oscillation frequencies of the polymer or elastomeric material.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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#### *Conclusion*

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sanza L McClendon

Examiner

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SMc



**James J. Seidleck**  
**Supervisory Patent Examiner**  
**Technology Center 1700**